

## REPORT ON THE ANTS

Collected by the Barbados-Antigua Expedition  
from the University of Iowa in 1918

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Although there has been considerable collecting of ants on the Windward Islands, only the species of St. Vincent and Grenada have been listed hitherto. Professor Dayton Stoner has recently sent me the ants which he collected as entomologist of the Barbados-Antigua Expedition of the University of Iowa, and during July, 1920, I was able to collect on both of the islands while on my way to British Guiana. Owing to the protracted and almost unprecedented drought, however, I was unable to secure many species. The following list is based on these small collections, on material that has been accumulating in my cabinet and on that collected by Professor A. Forel in Barbados while on his journey to Colombia in 1896. The total is rather meager and most of the species are well-known, widely distributed West Indian forms.

### Family **Formicidæ**

#### Subfamily **Ponerinæ**

*Platythyrea punctata* F. Smith var. *pruinosa* Mayr.—Barbados.

First taken on the island by Professor Forel. Professor Stoner captured two workers.

*Odontomachus hæmatoda* L. subsp. *insularis* Guérin.—Antigua: St. John (Stoner; Amer. Mus. Exped.) ♂ ♀. Barbados (Forel, Stoner) ♂. Bridgetown (Wheeler) ♂. This ant is common throughout the West Indies and tropical Florida. To the many known localities I may add Montserrat and St. Kitts, from which I have received workers taken by Mr. H. A. Ballou.

#### Subfamily **Myrmicinæ**

*Cardiocondyla emeryi* Forel.—Male and female specimens re-

corded by Forel from Barbados and Guadeloupe. The species was first found on St. Thomas but has since been taken in many widely separated localities: Madeira, Syria, East Indies, Madagascar, Florida, etc.

*Monomorium minutum* Mayr.—Barbados (H. A. Ballou) ♀ ♀ ♂. The specimens are very close to if not identical with the typical form of the species from Southern Europe. There can be little doubt that this, like the following *Monomoriums*, has been introduced into the islands by commerce.

*Monomorium carbonarium* F. Smith subsp. *ebeninum* Forel.—Antigua: St. John (Stoner) ♀.

*Monomorium floricola* Jerdon.—Barbados (Forel).

*Monomorium (Parholcomyrme) destructor* Jerdon.—Antigua: St. John (Stoner, Wheeler) ♀. I took this ant on the flowers of a Bignoniaceous tree in the botanical garden. Introduced from the Indomalayan Region.

*Monomorium (Xeromyrme) salomonis* L. subsp. *subopacum* F. Smith.—Antigua: St. John (Wheeler) ♀. Running on logs near the wharves. Evidently introduced from Spain or North Africa.

*Solenopsis geminata* Fabr.—Antigua (Amer. Mus. Exped.) ♀; Barbados (Forel, H. A. Ballou), Bridgetown (Wheeler) ♀.

*Pheidole fallax* Mayr subsp. *jelskii* Mayr var. *antillensis* Forel, 24 ♀.—Antigua (Stoner) ♀: St. John (Amer. Mus. Exped.) ♀. Barbados (Forel, Stoner) 24 ♀. Also recorded by Forel from Guadeloupe and common on many other West Indian Islands.

*Pheidole subarmata* Mayr var. *elongatula* Forel.—Barbados (Forel) 24 ♀.

*Crematogaster (Orthocrema) brevispinosa* Mayr var. *brevidentata* Forel.—Barbados: Bathsheba, 200 m. (Forel) ♀.

*Crematogaster (Orthocrema) brevispinosa* Mayr var. *minutior* Forel.—Barbados: Bridgetown (Wheeler) ♀, running on tree-trunks.

*Crematogaster (Orthocrema) carinata* Mayr.—Barbados: Bridgetown (Wheeler) ♀; nesting in the bark of living trees. This species was originally described from Brazil, whence it may have been introduced into Barbados. The specimens agree

perfectly with Mayr's description and figures in his work on the ants of the Novara Expedition.

*Crematogaster (Orthocrema) steinheili* Forel.—Barbados (Forel) ♀ ♀ ♂.

*Triglyphothrix striatidens* Emery.—Barbados (W. G. Jeffreys) ♀. Cited by Forel. This species is of recent importation from the Old World tropics.

*Wasmannia auropunctata* Roger.—Barbados (Forel) ♀ ♂.

*Atta columbica* Guérin var. *lutea* Forel.—Barbados (W. G. Jeffreys) ♀. Originally described from the island in 1893, but seems not to have been taken since.

#### Subfamily **Formicinae**

*Brachymyrmex cordemoyi* Forel.—Taken by Forel in Barbados and Guadeloupe. Originally from the Argentine, this minute ant is becoming tropicopolitan. Forel has also recorded it from the Seychelles.

*Brachymyrmex heeri* Forel subsp. *obscurior* Forel.—Barbados and St. Lucia (Forel) ♀ ♂; Bridgetown (Wheeler) ♀ ♀.

*Prenolepis (Paratrechina) longicornis* Latr.—Antigua: St. John (Stoner) ♀; Barbados: Garrison (W. Norwell) ♀; Bridgetown (Wheeler) ♀ ♀.

*Prenolepis (Nylanderia) vividula* Nyl. var. *antillana* Forel.—Barbados (Forel).

*Camponotus (Myrmosphincta) sexguttatus* Fabr.—The finding of a new and beautiful color variety of this variable species among the specimens collected by Professor Stoner in Antigua has led me to revise the materials in my collection, with the following results:

*Camponotus (Myrmosphincta) sexguttatus (typical)*. Fabricius' types were from St. Croix Island. I have seen no specimens from this precise locality, but considerable material in my collection from St. Thomas (Morrison), Porto Rico and Culebra Island (Wheeler), and Desecheo Island (F. E. Lutz) is very probably typical. Emery synonymizes the *C. ruficeps* Fabr. (female) from the Essequibo River with the previously described *sexguttatus* (worker), and I have taken colonies at Kartabo and Kalacoon, British Guiana, which must be very near the type-locality of *ruficeps*. I have before me also

series of specimens from St. Vincent (E. O. Hovey), Bridgetown, Barbados (Wheeler), Castries, St. Lucia (E. O. Lutz, Wheeler, J. C. Bradley); Dominica (Lutz, Wheeler), Fort de France, Martinique (Forel, Wheeler); San Lorenzo, Sanchez and San Francisco Mts., Santo Domingo (Busek); Corozal, Panama (Wheeler); Nicaragua (W. Fluck), etc. I believe that Emery is right in treating *C. bimaculatus* F. Smith as a mere synonym of *sexguttatus* (typ.). There is considerable variation in the maculation of the gaster in workers from the same colony, and in minor individuals the spots are usually developed only on the second segment. The type of *bimaculatus* is from St. Vincent. What Forel has designated as var. *bimaculatus* from Brazil and Paraguay is, in my opinion, var. *fusciceps* Emery, which is not known to occur in the West Indies, though I have specimens of it from Kaieteur, British Guiana (F. E. Lutz). I received numerous workers, females and males from Fiebrig, who collected them on the Parana River, Paraguay. It is probably a part of this series which was identified as *bimaculatus* by Forel. The var. *fusciceps*, however, has the head of the female and major worker black with its anterior portion and the mandibles dark brown or castaneous, and not yellowish red as in the West Indian form described by Smith.

*Camponotus sexguttatus* var. *grenadensis* Forel.—This variety was originally described from the island of Grenada, but Forel found it also in Barbados and it has been taken in the same locality by Jeffreys and Stoner. I have specimens of all three phases taken in Grenada by Professors Roland Thaxter and C. T. Brues. The variety is easily recognized by its color, the head, thorax and petiole of the worker and female being light yellowish red. The paired ivory-colored spots on the black or dark brown gaster are well-developed. The wings of the female are more yellowish and the pterostigma paler than in the typical *sexguttatus*. The male is dark brown with the dorsal surface of the head and thorax and the articulations of the legs and gaster testaceous. As in other varieties the second gastric segment has a couple of narrow transverse, pale spots at its base. The wings are scarcely paler than in the male of the typical form.

*Camponotus sexguttatus* var. *antiguanus* var. nov.

*Worker major and minor.* Clear reddish yellow throughout, except the mandibles and antennæ which are red, and a large poorly defined ivory white spot on each side of the second gastric segment.

*Male.* Brownish yellow; antennæ and legs pale brown; petiole and gaster darker, the latter with pale borders to the segments and a pair of whitish, transverse spots at the base of the second segment.

Seven workers and a single male taken on Antigua by Professor Dayton Stoner. Among the materials in my collection I find also the three following undescribed forms:

*Camponotus sexguttatus* var. *montserratensis* var. nov.

*Worker and female.* Colored like the preceding variety but lacking the pale spots on the second gastric segment. The wings and their veins in the female are very yellow, the pterostigma brown.

*Male.* Resembling the male of *antiguanus*, but the funiculi, legs and petiole are yellow like the head and thorax. Wings colored as in the female.

Described from six workers, two females and three males taken on the Island of Montserrat, June 19, 1912, by Mr. H. A. Ballou, "on a sour-sop tree."

*Camponotus sexguttatus* var. *unitaniatus* var. nov.

*Worker.* Dark brown; the spots on the second gastric segment fused to form a broad white fascia, usually indented in the middle behind, those on the third segment transverse and rather large but not confluent, those on the first segment small. The worker major has the head entirely brownish yellow and decidedly opaque.

Several workers from Chaquimayo, Peru, collected by Prof. Nils Holmgren (Stockholm Museum).

*Camponotus sexguttatus* subsp. *basirectus* subsp. nov.

*Worker minor.* Differing from the typical *sexguttatus* as follows: the head is more narrowed and dorsally more depressed at the occiput, the thorax is longer and more slender, epinotum more elongate, with its base in profile straight and the mesoepinotal constriction much shorter and shallower, the epinotum more elongate, with its base in profile straight and horizontal, nearly twice as long as the declivity and meeting it at a distinct though obtuse angle. The gaster is decidedly larger and more elongate, the legs and antennæ more slender. The surface of the body and especially of the head is more opaque and somewhat more sharply shagreened. The hairs are distinctly longer and more abundant on the body. The color is dark reddish brown, the legs yellowish brown; the spots on the first to third gastric segments ivory yellow, very large, those on the first and second segments rather rounded and almost meeting in the middle line.

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Described from several specimens taken by H. Mosén in Brazil and lent by the Stockholm Museum. This may be a distinct species, but I attach it provisionally to *sexguttatus* as I have seen only minor workers.

The following table may serve to identify the workers of the various described varieties and subspecies of *sexguttatus*.

1. Epinotum in profile convex and arcuate above.  
Bolivia ..... subsp. *biguttatus* Emery  
Epinotum in profile straight or more or less depressed above .....2.
2. Mesoëpinotal impression feeble; epinotum long, its base in profile straight and horizontal, forming a distinct angle with the declivity.  
Brazil ..... subsp. *basirectus* subsp. nov.  
Mesoëpinotal impression deeper; epinotum shorter, its base in profile high in front, sloping backwards and not forming a distinct angle with the declivity (subsp. *sexguttatus* Fabr.) .....3.
3. At least the gaster dark brown or black .....5.  
Gaster as well as head and thorax yellowish red .....4.
4. Gaster with cream-colored spots on second segment.  
Antigua .....var. *antiguanus* var. nov.  
Gaster immaculate. Montserrat.....var. *montserratensis* var. nov.
5. Head, thorax, petiole and appendages yellowish red.....6.  
At least the thorax dark brown or black.....7.
6. Spots on the first and second gastric segments fused to form fasciæ.  
Peru ..... var. *alboteniolatus* Fabr.  
Spots on the gaster not fused to form fasciæ. Grenada.  
Barbados .....var. *grenadensis* Forel
7. Spots on at least one of the gastric segments confluent and forming fasciæ ..... 8.  
Spots on the gastric segments not confluent.....9.
8. Only the spots of the second gastric segment confluent.  
Peru ..... var. *uniteniatus* var. nov.  
The spots of the first, second and third segments confluent to form fasciæ. Bolivia .....var. *ornatus* Emery
9. Antennal scapes in female and worker major surpassing the head by a little more than  $\frac{1}{4}$  their length; hairs on posterior tibiæ a little longer than the diameter of the tibiæ .....10.  
Scapes longer, surpassing the occiput by  $\frac{1}{3}$  their length; funicular joints longer; hairs on the posterior tibiæ a little shorter than the diameter of the tibiæ. Brazil, Peru.....var. *decorus* F. Smith

10. Head of female and worker major more or less extensively light red anteriorly; sometimes the whole head is yellowish red; spots present in female on first to fourth gastric segments; worker major often with spots on first and third as well as on the second segment; worker minor usually with spots only on the second segment. West Indies, Central America, Guiana.....*sexguttatus* (typical)
- Head of female and worker major dark brown or castaneous anteriorly; female with a pair of large spots on the second and small spots on the first and third segments; major and minor worker with spots only on second segment. Argentine, Paraguay, Bolivia, Brazil, British Guiana.....var. *fusciceps* Emery